

Special Issue

Building Energy Performance and Thermal Comfort: Synergies and Challenges

Message from the Guest Editors

Rising global temperatures and extreme weather changes are driving greater demand for heating and cooling, which trigger increased electricity use and carbon emissions. Moreover, the surge in air conditioning load in extreme weather leads to a sharp rise in the peak load and peak-valley difference of the power grid, which brings great challenges to the balance of power supply and demand. Therefore, building energy now faces the dual challenge of providing a comfortable indoor environment while minimizing environmental impact. Striking a balance between comfort and energy saving has become an urgent task in the field of building energy. For further reading, please follow the link to the Special Issue Website

at: https://www.mdpi.com/journal/buildings/special_issues/8Z27V669F4

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About the Journal

Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

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